

REMARKS

Applicant intends this response to be a complete response to the Examiner's **20 January 2010** Final Office Action. Applicant has labeled the paragraphs in his response to correspond to the paragraph labeling in the Office Action for the convenience of the Examiner.

DETAILED ACTION

Preliminary Statement

Applicants have imported the imitations of claims 212, 131 and 130 in to claim 100. As claims 212 was deemed to encompass allowable subjected matter and claims 212 depended from claim 131, which depended from claim 130, which depended from claim 100, Applicant believes that newly amended claim 100 is allowable. Because claim 100 is allowable, all dependent claims are allowable. Applicant has canceled all claims that conflict with the allowable subject matter of claim 212.

Applicant does not accept the Examiner's rejections on the claim 100 prior to amendment and will be filing a continuation application to continue the prosecution of the claim 100 prior to amendment. But as claim 212 is deemed to encompass allowable subject matter, Applicant desires to keep the record as clean as possible in respect to the allowable subject matter.

Withdrawn Rejections

The Examiner states or contends as follows:

1. The 35 U.S.C. 112, second paragraph, rejections of claims 100-139 of record in the previous Office Action mailed 6/9/2009 on Pages 2-6 have been withdrawn due to the Applicant's amendment filed 10/8/2009.

Applicant acknowledges the Examiner's statement.

Claim Rejections - 35 USC § 112

3. **Claim 104** stands rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The Examiner states or contends as follows:

The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation "the average thickness of at least one of the plies is at least 15% of the ply's maximum thickness" in claim 104 is deemed new matter. The Specification, as originally filed, does not provide clear support for this new limitation. Thus, this new limitation is deemed new matter.

Applicant has canceled claim 104, even though the original specification clearly includes these limitation in the original claims set. Applicant, therefore, respectfully requests withdrawal of this rejection.

5. **Claim 204** stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states or contends as follows:

6. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031,2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 204 recites the broad recitation "is no less than 50 MPa", and the claim also recites "still more preferably no less than 75 MPa", which is the narrower statement of the range/limitation. Appropriate correction is required.

Applicant has amended claim 204 and added new claims 214 to handle the "preferably" range. Applicant, therefore, respectfully requests withdrawal of this rejection.

Claim Rejections - 35 USC § 102

8. **Claims 100-105, 110, 111, 121, 122, 127, 128, 130-138, 199-203 and 213** stand rejected under 35 U.S.C. 102(b) as being anticipated by Clark (US 4,588,631).

The Examiner states or contends as follows:

The Examiner states or contends as follows:

Regarding claim 100, Clark discloses a flexible laminate comprising a monofilm-formed flexible ply A (Fig. 3, one of corrugated sheets 15; and col. 4, line 27 and lines 30-35), and another monofilm-formed flexible ply B (Fig. 3, another one of corrugated sheets 15; and col. 4, line 27 and lines 30-35), both comprising orientable thermoplastic polymer materials (col. 4, lines 46-53), in which the ply A (Fig. 3, one of sheets 15) has a fluted (corrugated) configuration and the ply B (Fig. 3, another one of sheets 15) on a first side is adhesively bonded in bonding zones to crests on a first side of the ply A (Fig. 3; col. 5, lines 5-30), where the ply B also has a fluted (corrugated) configuration (Fig. 3, sheet 15), a flute direction of the ply B forms an angle of 90° to a flute direction of the ply A (Fig. 3, sheets 15) and the bonding zones are on crests of the first side of the ply B to produce spot bonds with the crests on the first side of the ply A (Fig. 3, sheets 15; col. 5, lines 8-30), the adhesive bonding is directly the ply A to the ply B (Fig. 3, sheets 15) and is established through a lamination layer on either the ply A or the ply B (col. 5, lines 11-25), and the wavelengths of the flutes in the ply A and/or the ply B are deemed no longer than 5 mm, and the wavelengths of the flutes

in both the ply A and the ply B are deemed less than 10 mm (col. 8, lines 51-53), since the peak-to-peak distance of the waves of the corrugated sheet is 0.0476 inches (1.2 mm).

Applicant respectfully disagrees with the Examiner's reading of Clark concerning his teaching concerning Figure 3. Clark stated as follows in his description of Figure 3:

FIG. 3 depicts, in perspective, a corner portion of the first several layers in a criss-crossed stack of corrugated sheets (15) which may consist of **a fiber-glass/resin composite, of a metal or of a ceramic (the term being used in its broadest sense), or any other otherwise suitable, rigid material**. Although cutting with the aid of suitable clamps is considered feasible, it would be highly preferable to bond the sheets together first. The stack--clamped or bonded--is sliced into support plates (as by cutting in the plane in which the dashed surface line (16) lies).

Clark at Col. 6, ll. 51-61 (emphasis added). Clark expressly discloses that the corrugated layers are made of rigid and the resulting structure is rigid. In fact, Clark only refers to flexible materials in conjunction with a flexible spacing means used as a spacer between rigid support members. Clark at Col. 4, ll. 25-29.

Applicant also respectfully disagrees with the Examiner's reading of Clark concerning the materials out of which the Clark support structures are made. The Clark support structures are made of "plastics, metals, ceramics or paper impregnated with a resin (and cured)". Clark at Col. 4, ll. 46-47. Clark's only disclosure of thermoplastics is in reference to "curable thermoplastics", which are the cured. Clark Col. 4, ll. 51-53. Curing destroys any orientation in the thermoplastic. While plastics are disclose, the other materials, metals, ceramics and cured resin impregnated paper are rigid with little flexible in the traditional sense. In fact, all three Examples in Clark used polycarbonate and specifically polycarbonate having a compression strength of 12,500 psi.

Moreover, Clark does not disclose fluted layers, where the flute direction and the direction of orientation are the same or substantially the same.

Because Clark does not disclose flexible laminates made from flexible layers of a thermoplastic material – polyolefins, does not disclose orienting the thermoplastic material and does not disclose having the flute direction and the direction of orientation the same or substantially the same, Clark cannot anticipate claims 100-103, 105, 110, 111, 121, 122, 127, 128, 132, 134-135, 199-203, 213, 214-219 (old 130-131, 133, and 136-138). Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 101**, Clark discloses the thickness of each of the plies being substantially the same in bonded and unbonded zones (Fig. 3, sheets 15 and Fig. 1, t_2 and col. 9, lines 65-68).

Applicants reassert the arguments concerning Clark above. While the Clark corrugated sheets 15 of Figure 3 are the same, the sheets are rigid and not flexible. Thus, Clark cannot anticipate claims 101. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 102**, Clark discloses the flute wavelength in each of the two plies being no more than 4 mm, since the peak-to-peak distance of the waves of the corrugated sheet is 0.0476 inches (1.2 mm) (col. 8, lines 51-53).

Applicants reassert the arguments concerning Clark above. While the Clark corrugated sheets 15 of Figure 3 can have wavelength as low as 1.2 mm, the sheets are rigid and not flexible. Thus, Clark cannot anticipate claims 102. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 103**, in Fig. 3 of Clark, it is deemed to show that each of the two plies (15) has a flute with a curved length on average of at least 5% longer than the linear wavelength (also see Fig. 1).

Applicants reassert the arguments concerning Clark above. While the Clark corrugated sheets 15 of Figure 3 can have wavelength as low as 1.2 mm, the sheets are rigid and not flexible. Thus, Clark cannot anticipate claims 103. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 104**, the average thickness of at least one of the plies is at least 15% of the ply's maximum thickness (Table 2 and col. 9, line 68).

Applicant canceled claims 104, rendering the rejection moot.

The Examiner states or contends as follows:

Regarding **claim 105**, a width of each bonding zone (tips of the crests of the waves in Figs. 1 and 3) is deemed to be no less than 15% of the flute wavelength (col. 9, line 67).

Applicants reassert the arguments concerning Clark above. While the Clark corrugated sheets 15 of Figure 3 has a bonding zone within the limitation, the sheets are rigid and not flexible. Thus, Clark cannot anticipate claims 105. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 110**, the flute direction of the ply A is substantially perpendicular to the flute direction of the ply B (Fig. 3, sheets 15).

Applicants reassert the arguments concerning Clark above. While the Clark corrugated sheets 15 of Figure 3 shows the flute directions at 90°, the sheets are rigid and not flexible. Thus, Clark cannot anticipate claims 110. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 111**, one of the two flute directions essentially coincide with a machine direction of lamination (Fig. 3 and col. 8, lines 34-40).

Applicants reassert the arguments concerning Clark above. The Clark structures are continuously made in the form of sheets. The Clark layers as set forth in Example 1 are wound onto a mandrel and the ends are glued down. The laminates of this invention are made in a continuous manner with a flute direction of one ply coincident with the machine direction. No evidence is given as to how the support structure of Figure 3 Clark is made so the conclusion is that it is also formed on a mandrel. Because Clark uses rigid material and does not have a machine direction as that term is used in the present invention, Clark cannot anticipate claims 111. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 121**, the tips of the crests of the flutes in Figs. 1 and 3 are deemed first attenuated zones and are deemed substantially coincident with the bonding zones (the tips of the crests of the flutes in Figs. 1 and 3).

Applicants reassert the arguments concerning Clark above. Clark does not attenuate the fluted tape structure, regardless of where the attenuated zone are coincident with the bonding zone or not. Attenuation is performed by stretching one or both of the layers in stretching rollers prior to lamination. Clark does not attenuate, the Clark tape only passes between two meshing, knurling tools. Because Clark uses rigid material and does not attenuate by stretching, Clark cannot anticipate claim 121. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 122**, the first attenuated zones are present at least in one of the two plies

(Fig. 3, tips of crests of the flutes) and characterized by second solid-state-attenuated zones between each pair of adjacent first attenuated zones, the second attenuated zones being narrower than the first attenuated zones and located on the non-bonded crests of the respective ply (see Figs. 1 and 3).

Applicants reassert the arguments concerning Clark above. Clark does not disclose and in most situations cannot form attenuation zone, which are formed by stretching the flexible films. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 127 and 128**, note at least some of the flutes in both plies are flattened at intervals and preferably bonded across each ones entire width at the flattened locations to make the two arrays of flutes form closed pockets (Figs. 1 and 3), and the flattened portions are all of the flutes in an array (Figs. 1 and 3).

Applicants reassert the arguments concerning Clark above. Clark does not disclose any flattened zones, where the fluted films are flattened and then bonded. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 130 and 131**, note at least some of the channels formed by the flutes in plies A and B contain a filling material in liquid form which is deemed a preservative (effluent; col. 6, lines 8-10).

Applicants reassert the arguments concerning Clark above. While the Clark structures are filled with a liquid during use, Clark does not disclose filling the channels with a liquid preservative. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 132**, note both the ply A and the ply B are supplied with a multitude of perforations, whereby the perforations do not reach into the spot bonds, and the perforations in the ply A are displaced from the perforations in the ply B so as to cause gas or liquid when passing through the laminate, to run a distance through the flutes substantially parallel to the main surfaces of the laminate (openings; col. 4, lines 4-7).

Applicants reassert the arguments concerning Clark above. Clark does not disclose perforation in the plies so that the perforation do not reach into the spot bonds and the perforation are displaced. In fact, the Clark apertures are coincident and are exits for the filters. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 133**, the channels contain filling material (effluent; col. 6, lines 8-10).

Applicants reassert the arguments concerning Clark above. Clark does not disclose filling any change with a filling material. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 134**, the limitation is a functional limitation and is deemed to be an inherent characteristic of the prior art, since Clark discloses a laminate having the same structure as the claimed laminate (see above). MPEP 2114 and 2173.05(g).

Applicants reassert the arguments concerning Clark above. Clark simply does not disclose a laminate, where one of the plies is oriented in the same or substantially the same direction as the flute direction of the oriented ply. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 135**, note fiber film portions protruding from the borders of the perforations of at least one surface of the laminate (col. 7, lines 63-66).

Applicants reassert the arguments concerning Clark above. Clark does not disclose laminating a fibrous web laminated between fluted or corrugated plies. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 136-138**, the limitations "used as a sanitary backsheet on a diaper or as a sheet for covering a patient during surgery", "used for insulation of buildings", and "used as a geotextile" are recitations of the intended use of the claimed invention. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. MPEP 2111.02 (II) and 2114. As shown above, Clark teaches the same structure of the claimed laminate. Therefore, the laminate of Clark is capable of performing the intended use as claimed.

Applicants reassert the arguments concerning Clark above. Clark does not disclose the laminates of this invention, where one of the plies is oriented and specifically oriented in the direction of the flutes regardless of its use. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 199**, Clark discloses the flute wavelength in each of the two plies being no more than 3 mm, since the peak-to-peak distance of the waves of the corrugated sheet is 0.0476 inches (1.2 mm) (col. 8, lines 51-53).

Applicants reassert the arguments concerning Clark above. Clark does not disclose the laminates of this invention, where one of the plies is oriented and specifically oriented in the direction of the flutes regardless of the peak-to-peak distance or wavelength. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding claim 200, Clark discloses the flute wavelength in each of the two plies being no more than 2 mm, since the peak-to-peak distance of the waves of the corrugated sheet is 0.0476 inches (1.2 mm) (col. 8, lines 51-53).

Applicants reassert the arguments concerning Clark above. Clark does not disclose the laminates of this invention, where one of the plies is oriented and specifically oriented in the direction of the flutes regardless of the peak-to-peak distance or wavelength. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 201**, in Fig. 3 of Clark, it is deemed to show that each of the two plies . (15) has a flute with a curved length on average of at least 10% longer than the linear wavelength (also see Fig. 1).

Applicants reassert the arguments concerning Clark above. Clark does not disclose the laminates of this invention, where one of the plies is oriented and specifically oriented in the direction of the flutes regardless of curved length of the flutes. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 202**, the width of each bonding zone (tips of the crests of the waves in Figs. 1 and 3) is deemed to be no less than 20% of the flute wavelength (col. 9, line 67).

Applicants reassert the arguments concerning Clark above. Clark does not disclose the laminates of this invention, where one of the plies is oriented and specifically oriented in the direction of the flutes regardless of width of the bonding zone. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 203**, the width of each bonding zone (tips of the crests of the waves in Figs. 1 and 3) is deemed to be no less than 30% of the flute wavelength (col. 9, line 67).

Applicants reassert the arguments concerning Clark above. Clark does not disclose the laminates of this invention, where one of the plies is oriented and specifically oriented in the direction of the flutes regardless of width of the bonding zone. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 213**, the laminate further includes micro-perforations established in the flutes, which enhance the effect of the preservative (openings; col. 4, lines 4-7).

Applicants reassert the arguments concerning Clark above. Clark does not disclose the laminates of this invention, where one of the plies is oriented and specifically oriented in the direction of the flutes regardless of having micro-perforations. Applicant, therefore, respectfully requests withdrawal of this rejection.

9. **Claims 100, 102, 107, 110-126, 129, 139, 199, 200 and 204-211** stand rejected under 35 U.S.C. 102(b) as being anticipated by Rasmussen (US 5,626,944).

The Examiner states or contends as follows:

Regarding claim 100, Rasmussen discloses a flexible laminate comprising a multi film formed flexible ply A, and another multifilm-formed flexible ply B (col. 6, lines 55-65), both comprising orientable thermoplastic polymer material (col. 16, lines 40-50), in which the ply A has a fluted (ribbed) configuration (col. 5, lines 53-57) and the ply B on a first side is adhesively bonded in bonding zones to crests on a first side of the ply A (col. 6, lines 18-33 and lines 55- 65), where the ply B also has a fluted (ribbed) configuration (col. 5, lines 53-57), the flute direction of the ply B is deemed to form an angle of 90° to the flute direction of ply A, since a cross-laminate is being formed (see abstract), and the bonding zones are on the crests of the first side of the ply B to produce spot bonds with the crests on the first side of the ply A (col. 6, lines 18-33), the adhesive bonding is directly the ply A to the ply B and is established through a lamination layer on either the ply A or the ply B (col. 6, lines 55-65), and the wavelengths of the flutes in the ply A and/ or the ply B are no longer than 5 mm, and the wavelengths of the flutes in both the ply A and the ply B are less than 10 mm (col. 4, lines 35-37).

Rasmussen relates to films with thickened ribs, but not flutes. Rasmussen does not disclose spot bonding between crossing fluted plies. Rasmussen does not disclosure films oriented with the direction of orientation the same or substantially the same as the flute direction. Because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of

orientation the same or substantially the same as the flute direction, Rasmussen cannot anticipate claim 100. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 102**, Rasmussen discloses the flute wavelength in each of the two plies being no more than 4 mm (col. 4, lines 35-37).

Applicants reassert the arguments concerning Rasmussen above. Rasmussen does include ribs and the ribs can have a wavelength of 4 mm, but Rasmussen does not disclose fluted materials, where the thickness of the film in the crests of the peaks is substantially the same as the thickness of the film away from the crests. Because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction, Rasmussen cannot anticipate claim 102. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 107**, the flutes are curved or zig-zagged along one direction (claim 10).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the form of the flute, Rasmussen cannot anticipate claim 107, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 110**, the flute direction of the ply A is substantially perpendicular to the flute direction of the ply B, since a cross-laminate is being formed (claim 1).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the flute directions, Rasmussen cannot anticipate claim 110, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this

rejection.

The Examiner states or contends as follows:

Regarding **claim 111**, one of the two directions of the flutes essentially coincide with a machine direction of the lamination (see abstract).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the two flute directions, Rasmussen cannot anticipate claim 111, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 112**, the ply A is molecularly oriented in a direction parallel to the direction of its flutes (claim 1).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the orientation of the plies, Rasmussen cannot anticipate claim 112, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 113**, the ply B is molecularly oriented (claim 1).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the two flute directions, Rasmussen cannot anticipate claim 113, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 114, 204 and 205**, the limitation is deemed a latent property of the prior art, since the composition and/or structure of the laminate in Rasmussen is substantially identical to that of the claimed laminate. It has been held that mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. MPEP 2145 (II).

Applicants reassert the arguments concerning Rasmussen above. Regardless of specific non-essential limitation, Rasmussen cannot anticipate claim 114, 204, and 205, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 115**, the ply B inherently has a lower coefficient of elasticity than the ply A, both as measured in the direction perpendicular to the flute direction of the ply A, since the laminate in Rasmussen has substantially the same composition and/or structure as that of the claimed laminate.

Applicants reassert the arguments concerning Rasmussen above. Regardless of the coefficients of elasticity of the plies, Rasmussen cannot anticipate claim 115, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 116 and 206**, the ply B is a thermoplastic elastomer (col. 6, lines 55- 65), therefore the choice of material for the ply B and of depth of the ply A's fluting is inherently such that by stretching of the laminate perpendicular to the direction of the ply A's fluting up to the point where the ply A's waving has disappeared, the ply B still has not undergone any significant plastic deformation.

Applicants reassert the arguments concerning Rasmussen above. Regardless of the polymers used, Rasmussen cannot anticipate claim 116 and 206, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 117**, the ply B is molecularly oriented mainly in a direction parallel to the direction of its flutes or in a direction close to the latter as determined by shrinkage tests (claim 1).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the orientation of the plies, Rasmussen cannot anticipate claim 117, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 118**, the ply A is composed of several films, and the main direction of molecular orientation, is the resultant of different monoaxial or biaxial orientations in the films optionally mutually differently directed (claims 1 and 9).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the composition of the films, Rasmussen cannot anticipate claim 118, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 119**, the ply B is composed of several films, and the main direction of molecular orientation, is the resultant of different monoaxial or biaxial orientations in the films optionally mutually differently directed (claims 1 and 9).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the composition of the films, Rasmussen cannot anticipate claim 119, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 120 and 207**, the first attenuated zones are present in at least one of the two plies wherein if such zones of attenuated ply extend in their transverse direction beyond the corresponding zones of bonding into non-bonded zones of the ply, the extensions within each non-bonded zone are limited to a total width which leaves more than half of and no less than 70% of a width of the non-bonded zone as not belonging to any first attenuated zone, these widths being the distance measured along the curved surfaces (see Figure 1).

Applicants reassert the arguments concerning Rasmussen above. Rasmussen cannot anticipate claims 120 and 207, because Rasmussen not only does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction, but Rasmussen does not even disclose attenuation zone primarily associate with the bonding zone at the crests of the flutes. If Rasmussen as attenuation zone at all, then are located away from the ribs, which would be the flutes. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 121**, the first attenuated zones are present in at least one of the plies and in which the bonding zones are substantially coincident with the first attenuated zones (Figs. 1 and 4).

Applicants reassert the arguments concerning Rasmussen above. Rasmussen cannot anticipate claim 121, because Rasmussen not only does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction, but Rasmussen does not even disclose attenuation zone primarily associate with the bonding zone at the crests of the flutes. If Rasmussen as attenuation zone at all, then are located away from the ribs, which would be the flutes. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 122**, the first attenuated zones are present at least in one of the two plies and characterized by a second solid-state-attenuated zone between each pair of adjacent first attenuated zones, the second attenuated zones being narrower than the first attenuated zones and located on the non-bonded crests of the respective ply (Fig. 4).

Applicants reassert the arguments concerning Rasmussen above. Rasmussen cannot anticipate claim 122, because Rasmussen not only does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does

not disclose a film having a direction of orientation the same or substantially the same as the flute direction, but Rasmussen does not even disclose attenuation zone primarily associate with the bonding zone at the crests of the flutes. If Rasmussen as attenuation zone at all, then are located away from the ribs, which would be the flutes. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 123, 208 and 209**, note at least one of the two plies exhibits solid-state attenuated zones wherein the first attenuated zones of the ply are attenuated so that the minimum-thickness in such zone is less than 75%, less than 50% and less than 30% of the maximum thickness of the ply in the non-bonded zone (Figs. 1 and 4).

Applicants reassert the arguments concerning Rasmussen above. Rasmussen cannot anticipate claims 123, 208 and 209, because Rasmussen not only does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction, but Rasmussen does not even disclose attenuation zone primarily associate with the bonding zone at the crests of the flutes. If Rasmussen as attenuation zone at all, then are located away from the ribs, which would be the flutes. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 124 and 210**, plies A and B consist of poly olefin, which is inherently . orientable at room temperature, since it is the same material used for the claimed plies A and B (claim 9).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the composition of the films, Rasmussen cannot anticipate claims 124 and 210, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 125**, spot bonds between the plies A and B is effected through a lower melting surface layer on at least one of the plies, formed in a coextrusion process (col. 6, lines 55-65).

Applicants reassert the arguments concerning Rasmussen above. Regardless of whether there is a co-extruded bonding layer, Rasmussen cannot anticipate claim 125, because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 126**, note at least one of the plies comprises a barrier film designed for protection against oxygen and other gaseous materials (col. 6, lines 55-65).

Applicants reassert the arguments concerning Rasmussen above. Rasmussen cannot anticipate claim 126, because Rasmussen not only does not disclose fluted film, laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction, but Rasmussen does not disclose barrier films against oxygen and other harmful gases. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claims 129 and 211**, the coefficient of elasticity E in at least one of the plies, measured in the unbonded zone of the ply in the direction parallel to the flute (rib), as an average over the unbonded zone is inherently no less than 700 MPa and no less than 1000 MPa, since the laminate in Rasmussen has substantially the same composition and/or structure as that of the claimed laminate.

Applicants reassert the arguments concerning Rasmussen above. Regardless of the elasticity of the plies, Rasmussen cannot anticipate claims 129 and 211, because Rasmussen does not disclose fluted film, laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 139**, Rasmussen discloses a bag made from the laminate wherein the flutes on one of the two major surfaces of the bag are substantially perpendicular to the flutes on the other major surface of the bag (col. 1, lines 26-29 and col. 5, lines 65-66).

Applicants reassert the arguments concerning Rasmussen above. Regardless of the two flute

directions, Rasmussen cannot anticipate claim 220, because Rasmussen does not disclose fluted film, laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 199**, Rasmussen discloses the flute wavelength in each of the two plies being no more than 3 mm (col. 4, lines 35-37).

Applicants reassert the arguments concerning Rasmussen above. Regardless of whether the wavelength of the flutes in the two plies is no more than 3 mm, Rasmussen cannot anticipate claim 199, because Rasmussen does not disclose fluted film, laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

Regarding **claim 200**, Rasmussen discloses the flute wavelength in each of the two plies being no more than 2 mm (col. 4, lines 35-37).

Applicants reassert the arguments concerning Rasmussen above. Regardless of whether the wavelength of the flutes in the two plies is no more than 2 mm, Rasmussen cannot anticipate claim 199, because Rasmussen does not disclose fluted film, laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction. Applicant, therefore, respectfully requests withdrawal of this rejection.

Claim Rejections - 35 USC § 103

11. **Claims 106-108** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (US 4,588,631).

The Examiner states or contends as follows:

Clark discloses the claimed laminate as described above except for the flutes extending in a substantially rectilinear shape, being curved or zig-zagging and/or branched, and being differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar visual effect. It

would have been an obvious matter of design choice to change the shape of the flutes in Clark to be in a rectilinear shape, be curved or zig-zagging and/or branched, and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar, since such a modification would have involved a mere change in the shape of the flutes. A change in shape is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (IV). One of ordinary skill in the art would have been motivated to change the shape of the flutes in Clark to be rectilinear in shape, be curved or zigzagging and/or branched, and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar visual effect in order to change the visual appearance of the laminate. It is desirable to change the visual appearance of the laminate in Clark in order to make the laminate more appealing to the consumer.

Applicants reassert the arguments concerning Clark above. Clark does not disclose flexible plies having fluted configuration, where at least one of the plies is molecularly oriented and the direction of orientation is the same or substantially the same as the flute direction. Clark While Clark does curve is structures, Clark does not disclose flutes that are curved, zig-zagged or branched. Clark only show a single example of a structure with two fluted layer and that is the structure of Figure 3. The present invention discloses flutes themselves are curved, zig-zagged or branched instead of straight (rectilinear).

Because Clark does not disclose, teach or even suggest or make a reference to lead an ordinary artisan to make flute that are not straight before being taken up on a mandrel, Clark cannot render claims 106-109 obvious. Applicant, therefore, respectfully requests withdrawal of this rejection.

12. **Claim 109** stands rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (US 4,588,631).

The Examiner states or contends as follows:

Clark discloses the claimed laminate as described above except for the plies having different colors. It would have been an obvious matter of design choice to change the color of the plies in Clark to be of different colors, since such a modification would have involved a mere change in the aesthetics of the plies. A change in the aesthetics is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (I). One of ordinary skill in the art would have been motivated to change the color of the plies in Clark to be differently colored in order to change the visual attractiveness of the laminate. It is desirable to change the visual attractiveness of the laminate in Clark in order to make the laminate more appealing to the consumer.

Applicants reassert the arguments concerning Clark above. Clark does not disclose flexible laminates made from flexible layers of a thermoplastic material – polyolefins, does not disclose orienting the thermoplastic material and does not disclose having the flute direction and the direction of orientation the same or substantially the same. Even if the Clark structures can have color, the lack of disclosure, teaching, suggestion or even an indication to try to prepare flexible continuous

films as set forth in the present invention, renders Clark impotent in the context of an obviousness rejection. Applicant, therefore, respectfully requests withdrawal of this rejection.

13. **Claims 106 and 108** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (US 5,626,944).

The Examiner states or contends as follows:

Rasmussen discloses the claimed laminate as described above except for the flutes extending in a substantially rectilinear shape and being differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar visual effect. It would have been an obvious matter of design choice to change the shape of the flutes (ribs) in Rasmussen to be in a rectilinear shape and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar visual effect, since such a modification would have involved a mere change in the shape of the flutes. A change in shape is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (IV). One of ordinary skill in the art would have been motivated to change the shape of the flutes (ribs) in Rasmussen to be rectilinear in shape and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar visual effect in order to change the visual appearance of the laminate. It is desirable to change the visual appearance of the laminate in Rasmussen in order to make the laminate more appealing to the consumer.

Applicants reassert the arguments concerning Rasmussen above. Again, Rasmussen relates to films with thickened ribs, but not flutes. Rasmussen does not disclose spot bonding between crossing fluted plies. Rasmussen does not disclose films oriented with the direction of orientation the same or substantially the same as the flute direction. Because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction, Rasmussen cannot render claims 106 and 108 obvious regardless of whether the flutes are straight, curved, zig-zagged or branched. Applicant, therefore, respectfully requests withdrawal of this rejection.

14. **Claim 109** stands rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (US 5,626,944).

The Examiner states or contends as follows:

Rasmussen discloses the claimed laminate as described above except for the plies having different colors. It would have been an obvious matter of design choice to change the color of the plies in Rasmussen to be of different colors, since such a modification would have involved a mere change in the aesthetics of the plies. A change in the aesthetics is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (1).

One of ordinary skill in the art would have been motivated to change the color of the plies in Rasmussen to be differently colored in order to change the visual attractiveness of the laminate. It is desirable to change the visual attractiveness of the laminate in Rasmussen in order to make the

laminate more appealing to the consumer.

Applicants reassert the arguments concerning Rasmussen above. Again, Rasmussen relates to films with thickened ribs, but not flutes. Rasmussen does not disclose spot bonding between crossing fluted plies. Rasmussen does not disclose films oriented with the direction of orientation the same or substantially the same as the flute direction. Because Rasmussen does not disclose fluted film laminates having spot bonds between crests of one fluted film and a second fluted film at an angle to the first, and does not disclose a film having a direction of orientation the same or substantially the same as the flute direction, Rasmussen cannot render claim 109 obvious regardless of whether the flutes are colored or have colored printing on a surface thereof. Applicant, therefore, respectfully requests withdrawal of this rejection.

Allowable Subject Matter

The Examiner states or contends as follows:

15. Claim 212 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art of record, Clark (US 4,588,631) and Rasmussen (US 5,626,944), each fail to Application/Control Number: 10/538,224 Art Unit: 1794 Page 15 anticipate or render obvious the distinct feature of a "preservative selected from the group consisting of an oxygen scavenger, ethylene scavenger and a biocide, as recited in claim 212.

Applicant thanks the Examiner for setting forth that claim 212 would be allowable if written in independent form, but Applicant believes that amended claim 100 is fully distinguished over the prior art of record.

Response to Arguments

The Examiner states or contends as follows:

17. Applicant's arguments filed 10/8/2009 have been fully considered but they are not persuasive.

Applicant argues "The Clark structure shown in Fig. 3 requires rigid materials, which relates to structures pictorially similar to the structures of this invention. The present invention relates to flexible material. Bonding of the Clark Fig. 3 structures cannot be performed in a laminating process, but must be done using a wholly different bonding system as the bonding is not between thermoplastics, but between fiber glass composites, metals or ceramics, none of which can be laminated in the laminating processes of this invention. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claims 100-105, 110, 111, 121, 122, 127, 128 and 130-138 and claims 106-109 are not obvious over Clark".

This argument is not deemed persuasive. It is to be pointed out that the corrugated structure taught in Clark has some degree of flexibility (see col. 4, lines 25-29 and lines 30-33). Also, the material making up the corrugated structure in Clark can be thermoplastic (see col. 4, line 46 and col.

8, lines 34-35) and bonding of the structures in Clark can be performed in a laminating process (col. 5, lines 8-30). Accordingly, Clark discloses a flexible laminate constructed of flexible plies that are bonded through a lamination process, as required by claim 100. Thus, Clark anticipates claims 100-105, 110, 111, 121, 122, 127, 128 and 130-138 and claims 106-109 are obvious over Clark.

Applicant further argues "Rasmussen '944 does not disclose laminating fluted plies, where the fluted plies bond at points of intersection of the flute crests. While Rasmussen '944 does disclose waved structures, the waves are formed into the cross-laminate after the cross-laminated is formed. In fact, the present invention can use cross-laminates of Rasmussen '944 in the construction of the fluted plies. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claims 100, 102, 107, 110-126, 129 and 139, and claims 106, 108 and 109 are not obvious over Rasmussen".

This argument is not deemed persuasive. Rasmussen '944 discloses a cross-laminate of two fluted (waved) plies (see claim 1) which are bonded at points of intersection (flex-lines) (see col. 6, lines 18-33). Accordingly, Rasmussen '944 discloses laminating fluted plies, where the fluted plies bond at points of intersection of the flute crests, as required by claim 100. Thus, Rasmussen '944 anticipates claims 100, 102, 107, 110-126, 129 and 139, and claims 106, 108 and 109 are obvious over Rasmussen.

Applicant reassert the arguments relating to Clark here. As pointed out, Clark discloses only rigid materials in the structure of Figure 3, making Clark a non-flexible structure. Second, the Clark layer are not oriented, with the orientation of ply A in the same or substantially the same direction as its flutes. Third, Clark is not laminated such at the flutes of one ply are oriented in the machine direction as Clark is formed on a mandrel and the present laminates are sheets.

If it would be of assistance in resolving any issues in this application, the Examiner is kindly invited to contact applicant's attorney Robert W. Strozier at 713.977.7000

The Commissioner is authorized to charge or credit Deposit Account 501518 for any additional fees or overpayments.

Date: **21 June 2010**

Respectfully submitted,

/Robert W. Strozier/

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